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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/890,482	05/02/2003	Andrew J. Ouderkirk	53852US013	1699

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EXAMINER	
BOUTSIKARIS, LEONIDAS	
ART UNIT	PAPER NUMBER
2872	

DATE MAILED: 09/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/890,482	OUDERKIRK ET AL.	
	Examiner	Art Unit	
	Leo Boutsikaris	2872	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 June 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *28 and 31-34* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *28 and 31-34* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *26 July 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 28, 31-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ouderkirk (WO 97/01778) in view of Oi (US 5,804,102) and Isoda (US 3,928,760) and further in view of any of Van der Voort (US 4,937,661) or Vriens (US 4,804,884).

Regarding claim 28, Ouderkirk discloses an optical filter (Fig. 1) comprising a dielectric reflective layer capable of reflecting a predetermined proportion of light in a specific wavelength region, i.e., near infrared, while transmitting a predetermined proportion of light in a desired wavelength region, i.e., the visible region (see Fig. 14), the dielectric reflective layer comprising a first set of dielectric reflective layer units, constituted by a plurality of layers each formed of a first polymer A, in combination with a second set of dielectric reflective layer units constituted by a plurality of layers each formed of a second polymer B having a refractive index different from the first polymer, the first and second sets of dielectric reflective layer units being combined by alternatively stacking the first and second polymer layers, A and B, the dielectric reflective layer having a reflectance of not less than 70% of the light to be reflected (wavelengths

in the 800-1,100 nm region). Furthermore, at least one of the polymer layers is birefringent (line 30, p. 4 to line 2, p. 5).

However, Ouderkirk does not disclose the IR reflective filter is used in conjunction with an IR detector device.

Oi discloses a plasma display filter that cuts off passage of near IR radiation (see Abstract), and he teaches that near IR rays emitted by the plasma display devices affect electronic equipment located in the vicinity of the display, such as IR remote control devices (lines 22-26, col. 1). Such effect causes malfunctions to the IR sensors e.g., the remote control device. Furthermore, Isoda discloses a remote control device, which includes an optical filter 14 in front of the optical detector 15 (Fig. 3). The role of the optical filter is to prevent passage of light of unwanted wavelengths (in this case visible light, i.e., the filter only allows passage of IR light). It would have been obvious to one of ordinary skill in the art at the time the invention was made, to use the multilayer IR filter of Ouderkirk, a filter which substantially reflects incident IR radiation, in conjunction with an IR remote control detector in order to prevent the incidence of unwanted IR radiation upon the detector and therefore cause deleterious effects, as taught by Oi, by simple placing the filter in front of the detector, as taught by Isoda. Such simple arrangement would substantially prevent most of the IR radiation from being incident onto the remote control detector, thus preventing possible malfunction of the device (line 26, in Oi).

Finally, Ouderkirk does not disclose that the filter is curved. As mentioned *supra*, Van der Voort and Vriens disclose interference filters that are formed on curved substrates. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the

IR reflective filter of Ouderkirk on a curved carrier, as taught by Vriens and Van der Voort, since a curved-shaped filter provides a greater flexibility in covering the most possible sensor area.

Regarding claims 31, 34, the curved shape of the disclosed filter is cylindrical, the detector is positioned behind the filter (see Fig. 3 in Isoda), and because of the filter's shape, the filter provides a wide viewing angle in one plane (plane of paper) and limited in the orthogonal plane.

Regarding claim 32, Vriens and Van der Voort do not specify that the shape of the curved filter is spherical. It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the shape of the protective filter spherical, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ (CCPA 1980). Here, the effective variable is the shape of the protective filter, and a spherical-shaped filter substantially enclosing an IR sensor, provides the maximum protection against external interference for the case of omni-directional IR sensors.

Regarding claim 33, it is noted that the combination of Ouderkirk in view of Oi and Isoda and further in view of Vriens or Van der Voort reads on all of the limitations of said claim, since the claim language "to accommodate spectral shift" is functional language, and it has been held that claims directed to apparatus must be distinguished from the prior art in terms of structure rather than function. *In re Danley*, 120 USPQ 528, 531 (CCPA 1959). Furthermore, it has been held that "apparatus claims cover what a device is, not what a device does" (emphasis in original) *Hewlett-Packard Co. v. Bausch & Lomb Inc.*, 15 USPQ2d 1525, 1528 (Fed. Cir. 1990).

Response to Applicant's Arguments

Applicant's arguments filed on 6/27/05 have been fully considered but they are not persuasive.

Applicant's main argument is that the combination of prior art references used in the 103 rejection of claim 28 is improper, since "placing an IR reflecting filter in front of the detector 15 of Isoda would prevent the signal from the diode 3...from reaching the detector 15. This would prevent the television receiver 2 of Isoda from being remotely controlled by the transmitter 1". The examiner respectfully disagrees and notes that Isoda was only cited for the teaching that an optical filter may be placed in front of an optical detector in a remote detector device, for preventing passage of unwanted radiation. In the present case, the unwanted radiation is IR radiation (as taught by Oi). The combination of Ouderkirk, Oi and Isoda does not imply that the suggested modification should satisfy the stated operational principle of Isoda.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dr. Leo Boutsikaris whose telephone number is 571-272-2308.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Leo Boutsikaris, Ph.D., J.D.
Primary Patent Examiner, AU 2872
September 14, 2005

LEONIDAS BOUTSIKARIS
PRIMARY EXAMINER